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(54) **ZIPPER ASSEMBLY AND SEALING BAG**

(57) Disclosed are a zipper assembly and a sealing bag. The zipper assembly includes a zipper (20) including two single chains (21) and a slider (10) including an opening tongue (11). Each of the single chains (21) is provided at an inner side with at least an upper complementary sealing part (24) and a lower complementary sealing part (25) which are arranged side by side. The upper complementary sealing parts (24) include a first secondary hook (241) and a first primary hook (242). An inner side of the first secondary hook (241) is provided with first bumps (243), with a first groove (244) provided between every two adjacent first bumps (243). A head (111) of the opening tongue (11) is inserted between the first secondary hook (241) and the first primary hook (242), left and right sides of the head (111) of the opening tongue (11) respectively abut against the first bumps (243) opposite to each other. When the slider (10) is pulled to move forwards and backwards, the left and right sides of the head (111) of the opening tongue (11) respectively collide with the first bumps (243), such that the slider (10) makes a sound during movement thereof. The sealing bag includes a body (30), the zipper assembly and sealing ribs (40). When the sealing bag is opened and closed, a special sound is made so as to achieve a prompting function,

and when the sound stops, sealing is complete. The sealing effect is good, and the zipper is convenient to open and close.

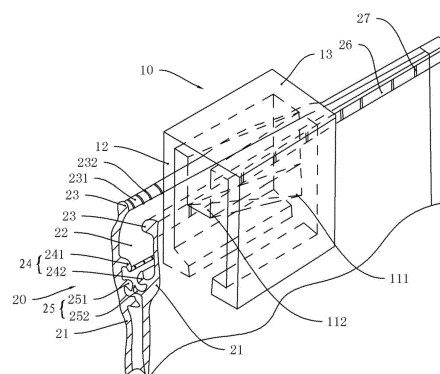


FIG. 1

Description

TECHNICAL FIELD

[0001] The present invention relates to the technical field of bags, and in particular to a zipper assembly and a sealing bag.

BACKGROUND

[0002] Sealing bags have the characteristics of easy opening and good sealing effect, and are widely used in life. The existing sealing bag mainly includes a body, a slider and a zipper. The slider is provided with an opening tongue, and the zipper includes two parallel single chains. Each chain is provided with several parallel hooks, and when the slider slides along the zipper, the hooks on the two single chains are engaged with each other. The traditional sealing bag has no reminder function. When the slider slides along the zipper, it is difficult to judge whether the hooks on the two single chains have already been engaged with each other. Meanwhile, the opening tongue in the existing sealing bag either protrudes into the upper part of the two hooks and is not inserted between the hooks, or is inserted between the two hooks. In case that the opening tongue is inserted into the upper part of the two hooks and not inserted between the hooks, when the slider slides along the zipper to open the zipper, the two hooks are not easy to be disengaged from each other as they are tightly engaged with each other, while when the opening tongue is completely inserted between the two hooks, the sealing effect may be poor.

SUMMARY

[0003] The purpose of the present invention is to solve the deficiencies of the prior art and provide a zipper assembly and a sealing bag formed thereby.

[0004] A technical solution provided in the present invention provides:

a zipper assembly, including a zipper and a slider configured for opening and closing the zipper, wherein the slider includes an opening tongue, the slider is slidably connected to the zipper, and the zipper is pressed to close or separated by pulling the slider; the zipper includes two single chains, and each of the single chains is provided at an inner side with at least an upper complementary sealing part and a lower complementary sealing part which are arranged side by side; the upper complementary sealing parts include a first secondary hook and a first primary hook, which are matched with each other; an inner side of the first secondary hook or the first primary hook is provided with first bumps, with a first groove being provided between every two adjacent first bumps, a head of the opening tongue is configured to be inserted between the first secondary hook and the first primary hook, and left and right sides of the head of the

opening tongue respectively abut against the first bumps which are arranged opposite to each other; and when the slider is pulled to move forwards and backwards, and the left and right sides of the head of the opening tongue respectively collide with the first bumps and cross the first grooves, such that the slider makes a sound during movement thereof.

[0005] In a preferred embodiment, the slider further includes two limit pieces and a connecting block, and the two limit pieces are arranged in parallel; the opening tongue is located between the two limit pieces and connected to the connecting block; the two single chains are configured to pass through an area enclosed by the two limit pieces and the connecting block; outer sides of the zipper are provided with second bumps, with a second groove being provided between every two adjacent second bumps, and the two limit pieces of the opening tongue respectively abut against the second bumps which are arranged opposite to each other; and when the slider is pulled to move forwards and backwards, and the two limit pieces of the opening tongue respectively collide with the second bumps and cross the second grooves, such that the slider makes a sound during movement thereof.

[0006] In a preferred embodiment, a guiding part is provided on an inner side of a top of each zipper; a tail of the opening tongue is located in a cavity together enclosed by the two guiding parts and the two upper complementary sealing parts adjacent to the guiding parts; the guiding parts are each provided with third bumps on respective inner sides opposite to each other, with a third groove being provided between every two adjacent third bumps, and both sides of the opening tongue respectively abut against the third bumps which are arranged opposite to each other; and when the slider is pulled to move forwards and backwards, and both sides of the opening tongue respectively collide with the third bumps and cross the third grooves, such that the slider makes a sound or vibrates during movement thereof.

[0007] In a preferred embodiment, the head and the tail of the opening tongue are in an integral structure, with the opening tongue gradually decreasing in width from the tail to the head and gradually increasing in height from the tail to the head.

[0008] In a preferred embodiment, the lower complementary sealing parts include a second secondary hook and a second primary hook, which are matched with each other; when the slider slides towards a closed end of the zipper, the first secondary hook and the first primary hook are engaged with each other, and the second secondary hook and the second primary hook are engaged with each other; and when the slider slides toward an open end of the zipper, the first secondary hook and the first primary hook are disengaged from each other, and the second secondary hook and the second primary hook are disengaged from each other.

[0009] In a preferred embodiment, the first secondary hook and the second secondary hook are oriented in a

same direction, and the first primary hook and the second primary hook are oriented in a same direction; the first secondary hook and the first primary hook are arranged opposite to each other, and the second secondary hook and the second primary hook are arranged opposite to each other.

[0010] In a preferred embodiment, a slider limit bar is provided on an outer side of a bottom of each of the single chains; a respective limit block is oppositely arranged an inner side of a bottom of each of the two limit pieces, and when the slider is slidably connected to the zipper, the slider limit bar is clamped on an inner side of the respective limit block and slidably connected to the respective limit block.

[0011] A sealing bag is provided, including a body and further including sealing ribs and the zipper assembly, wherein the zipper assembly is arranged at an opening of the body, and the sealing ribs are arranged at the opening of the body and located at a lower side of the zipper assembly.

[0012] In a preferred embodiment, the sealing ribs include a convex rib and a concave rib, which are respectively provided on both sides of the opening of the body; and when the opening of the body is sealed, the convex rib and the concave rib are tightly clamped to form a reliable seal.

[0013] In a preferred embodiment, the sealing ribs include two toothless hooks which are arranged side by side, and the two toothless hooks are correspondingly disposed on both sides of the opening of the body and are matched with each other.

[0014] Combining the above-mentioned technical solutions, the beneficial effects of the present invention are as follows: by providing the first bumps on the first secondary hook or the first primary hook, the first bumps collide with the head of the opening tongue to make a special sound so as to achieve a prompting function, and when the sound stops, sealing is complete; by providing the second bumps on the outer side of the zipper, the closing bar collides with the corresponding second bumps to make a special sound so as to achieve a prompting function, and when the sound stops, sealing is complete; the opening tongue includes a head and a tail, with the tail being located in a cavity and the head being inserted into a pair of upper complementary sealing parts close to the cavity; when the slider slides along the zipper to open the zipper, the head cuts the upper complementary sealing parts and drives the lower complementary sealing parts to open, so that the whole zipper is opened; when the slider slides along the zipper to close the zipper, the tail is located in the cavity, and although the head is inserted into the upper complementary sealing parts, the lower complementary sealing parts are still in a state of mutual fastening, so as to have a very good sealing performance; meanwhile, as only the head is inserted into the upper complementary sealing parts and the volume of the head is relatively small, when the slider slides along the zipper to close the zipper, the slider is

located at one end of the zipper, a portion of the upper complementary sealing parts close to the end, which has a small volume, is in an unfastened state, and the remaining portion of the upper complementary sealing parts is all in a fastened state; and the sealing ribs can further increase the sealing effect of the sealing bag.

[0015] The above-mentioned description is only an overview of the technical solutions of the present invention. In order to be able to understand the technical means of the present invention more clearly, it can be implemented according to the content of the description. And in order to make the above-mentioned and other objects, features and advantages of the present invention more clearly and easily understood, the following preferred embodiments are cited and described in detail with the accompanying drawings as follows.

BRIEF DESCRIPTION OF DRAWINGS

[0016]

FIG. 1 is a schematic diagram of the present invention;

FIG. 2 is a perspective view of a slider in the present invention;

FIG. 3 is a schematic diagram of a single chain in the present invention;

FIG. 4 is a sectional view of the present invention;

FIG. 5 is a solid diagram of the slider in the present invention;

FIG. 6 is a solid diagram of an opening tongue in the present invention;

FIG. 7 is a sectional view of a body and sealing ribs in the fourth embodiment of the present invention; and

FIG. 8 is a sectional view of a body and sealing ribs in the fifth embodiment of the present invention.

DETAILED DESCRIPTION

[0017] In order to illustrate the idea and purpose of the present invention, the present invention will be further described below with reference to the accompanying drawings and embodiments.

[0018] In the first embodiment, as shown in FIG. 1 to 6, a zipper assembly, including a zipper 20 and a slider 10 configured for opening and closing the zipper 20, wherein the slider 10 includes an opening tongue 11, the slider 10 is slidably connected to the zipper 20, and the zipper 20 is pressed to close or separated by pulling the slider 10; the zipper 20 includes two single chains 21,

and each of the single chains 21 is provided at an inner side with at least an upper complementary sealing part 24 and a lower complementary sealing part 25 which are arranged side by side. The upper complementary sealing parts 24 include a first secondary hook 241 and a first primary hook 242, which are matched with each other. An inner side of the first secondary hook 241 or the first primary hook 242 is provided with first bumps 243, a first groove 244 is provided between every two adjacent first bumps 243, a head 111 of the opening tongue 11 is inserted between the first secondary hook 241 and the first primary hook 242, and left and right sides of the head 111 of the opening tongue 11 respectively abut against the first bumps 243 which are arranged opposite to each other. The slider 10 is pulled to move forwards and backwards, and the left and right sides of the head 111 of the opening tongue 11 respectively collide with the first bumps 243 and cross the first grooves 244, such that the slider 10 makes a sound during movement thereof.

[0019] As shown in FIG. 1 to 6, the special structure of the first secondary hook 241 or the first primary hook 242 is to provide first bumps 243, the inner sides of the first secondary hook 241 and the first primary hook 242 can both be provided with the first bumps 243, which collide with the head 111 of the special opening tongue 11 to make a special sound so as to achieve a prompting function, and when the sound stops, sealing is complete. The distance between the adjacent first bumps 243 is constant so that the sound is special and dense. When the head 111 of the opening tongue 11 is pulled, the first bumps 243 collide with the head 111 of the opening tongue 11 to make a sound.

[0020] As shown in FIG. 1 to 6, the head 111 of the opening tongue 11 is of a tapered structure, and the head 111 of the opening tongue 11 is inserted into the pair of upper complementary sealing parts 24 close to the cavity 22. When the slider 10 slides along the zipper 20 to open the zipper 20, the head 111 cuts the upper complementary sealing parts 24 and drives the lower complementary sealing parts 25 to open, so that the whole zipper 20 is opened. When the slider 10 slides along the zipper 20 to close the zipper 20, although the head 111 is inserted into the upper complementary sealing parts 24, the lower complementary sealing parts 25 are still in a state of mutual fastening, so as to have a good sealing function. Meanwhile, as only the head 111 is inserted into the upper complementary sealing parts 24 and the volume of the head 111 is relatively small, when the slider 10 slides along the zipper 20 to close the zipper 20, the slider 10 is located at one end of the zipper 20, a portion of the upper complementary sealing parts 24 close to the end, which has a small volume, is in an unfastened state, and the remaining portion of the upper complementary sealing parts 24 is all in a fastened state.

[0021] As shown in FIG. 1 to 6, the lower complementary sealing parts 25 include a second secondary hook 251 and a second primary hook 252, which are matched with each other. When the slider 10 slides towards a

closed end of the zipper 20, the first secondary hook 241 and the first primary hook 242 are engaged with each other, and the second secondary hook 251 and the second primary hook 252 are engaged with each other. When the slider 10 slides toward an open end of the zipper 20, the first secondary hook 241 and the first primary hook 242 are disengaged from each other, and the second secondary hook 251 and the second primary hook 252 are disengaged from each other.

[0022] As shown in FIG. 1 to 6, the first secondary hook 241 and the second secondary hook 251 are oriented in a same direction, and the first primary hook 242 and the second primary hook 252 are oriented in a same direction; the first secondary hook 241 and the first primary hook 242 are arranged opposite to each other, and the second secondary hook 251 and the second primary hook 252 are arranged opposite to each other. The first secondary hook 241 and the second secondary hook 251 are in the same structure, and the first primary hook 242 and the second primary hook 252 are in the same structure.

[0023] As shown in FIG. 1 to 6, a slider limit bar 211 is provided on an outer side of a bottom of each of the single chains 21; a respective limit block 121 is arranged on an inner side of a bottom of each of two limit pieces 12. When the slider 10 is slidably connected to the zipper 20, each of the slider limit bars 211 is clamped on an inner side of the respective limit block 121 and slidably connected to the respective limit block 121. When the slider 10 is slidably connected to the zipper 20, each of the slider limit bars 211 is clamped on an inner side of the respective limit block 121 and slidably connected to the respective limit block 121. The slider limit bar 211 limits the slider 10 to prevent the slider 10 from separating from the zipper 20.

[0024] In the second embodiment, as shown in FIG. 1 to 6, the difference between the present embodiment and the first embodiment lies in that: the slider 10 further includes two limit pieces 12 and a connecting block 13, and the two limit pieces 12 are arranged in parallel. The opening tongue 11 is located between the two limit pieces 12 and connected to the connecting block 13. Inner sides of the two limit pieces 12 are provided with closing bars 122, the two single chains 21 pass through an area enclosed by the two limit pieces 12 and the connecting block 13. An outer side of the zipper 20 is provided with second bumps 26, a second groove 27 is provided between every two adjacent second bumps 26, and the two closing bars 122 of the opening tongue 11 respectively abut against the second bumps 26 which are arranged opposite to each other. When the slider 10 is pulled to move forwards and backwards, and the closing bars 122 collide with the second bumps 26 and cross the second grooves 27, such that the slider 10 makes a sound during movement thereof. The outer side of the zipper 20 is provided with the second bumps 26, the closing bars 122 collide with the corresponding second bumps 26 to make a special sound so as to achieve a prompting function, and when

the sound stops, sealing is complete. The distance between the adjacent second bumps 26 is constant so that the sound is special and dense. When the head 111 of the opening tongue 11 is pulled, the second bumps 26 collide with the closing bars 122 to make a sound.

[0025] In the third embodiment, as shown in FIG. 1 to 6, the difference between the present embodiment and the first embodiment or the second embodiment lies in that: a guiding part 23 is provided on an inner side of a top of each zipper 20; a tail 112 of the opening tongue 11 is located in a cavity 22 enclosed by the two guiding parts 23 and the two upper complementary sealing parts 24 adjacent to the guiding parts 23. The guiding parts 23 are each provided with third bumps 231 on respective inner walls opposite to each other, a third groove 232 is provided between every two adjacent third bumps 231, and the tail 112 of the opening tongue 11 abuts against the third bumps 231 which are arranged opposite to each other. When the slider 10 is pulled to move forwards and backwards, both sides of the opening tongue 11 respectively collide with the third bumps 231 and cross the third grooves 232, such that the slider 10 makes a sound during movement thereof. The special structure of the inner walls of the cavity 22 is to provide the third bumps 231, which collide with the tail 112 of the special opening tongue 11 to make a special sound so as to achieve a prompting function, and when the sound stops, sealing is complete. The distance between the adjacent third bumps 231 is constant so that the sound is special and dense.

[0026] As shown in FIG. 1 to 6, the head 111 and the tail 112 of the opening tongue 11 are in an integral structure, with the opening tongue 11 gradually decreasing in width from the tail 112 to the head 111 and gradually increasing in height from the tail 112 to the head 111. The opening tongue 11 includes the head 111 and the tail 112, with the tail 112 being located in the cavity 22 and the head 111 being inserted into the pair of upper complementary sealing parts 24 close to the cavity 22; when the slider 10 slides along the zipper 20 to open the zipper 20, the head 111 cuts the upper complementary sealing parts 24 and drives the other lower complementary sealing parts 25 to open, so that the whole zipper 20 is opened; when the slider 10 slides along the zipper 20 to close the zipper 20, the tail 112 is located in the cavity 22, and although the head 111 is inserted into the upper complementary sealing parts 24, the other lower complementary sealing parts 25 are still in a state of mutual fastening, so as to play a very good sealing role. Meanwhile, as only the head 111 is inserted into the upper complementary sealing parts 24 and the volume of the head 111 is relatively small, when the slider 10 slides along the zipper 20 to close the zipper 20, the slider 10 is located at one end of the zipper 20, a portion of the upper complementary sealing parts 24 close to the end, which has a small volume, is in an unfastened state, and the remaining portion of the upper complementary sealing parts 24 is all in a fastened state.

[0027] As shown in FIG. 1 to 6, the head 111 and the tail 112 are in an integral structure, with the opening tongue 11 gradually decreasing in width from the tail 112 to the head 111 and gradually increasing in height from the tail 112 to the head 111. The width of the head 111 is small, which is favorable for cutting the upper complementary sealing parts 24. Meanwhile, due to the small width of the head 111, the volume of the head 111 inserted into the upper complementary sealing parts 24 is small, and when the slider 10 slides to the closed end of the zipper 20, the upper complementary sealing parts 24 are fastened to each other and the lower complementary sealing parts 25 are fastened to each other, with only a small portion of the upper complementary sealing parts 24 being separated by the head 111, and the rest being fastened. Thus, a sealing effect is obtained, and the zipper 20 can be opened very well.

[0028] In the fourth embodiment, as shown in FIG. 1 to 7, a sealing bag is provided, including a body 30 and further including sealing ribs 40 and the zipper assembly, wherein the zipper assembly is arranged at an opening of the body, and the sealing ribs 40 are arranged at the opening of the body and located at a lower side of the zipper assembly; the sealing ribs 40 include a convex rib 41 and a concave rib 42, which are respectively provided on both sides of the opening of the body. When the opening of the body is sealed, the convex rib 41 and the concave rib 42 are tightly clamped to form a reliable seal.

[0029] As shown in FIG. 7, the convex rib 41 is in an arrow-shaped convex angle structure, and the concave rib 42 is a hook-shaped slot, and when the opening of the body is sealed, the convex rib 41 and the concave rib 42 are tightly clamped to each other. The sealing ribs 40 can be used to further increase the sealing effect of the sealing bag.

[0030] In the fifth embodiment, as shown in FIG. 1 to 6 and 8, a sealing bag is provided, including a body 30 and further including sealing ribs 40 and the zipper assembly, wherein the zipper assembly is arranged at an opening of the body, and the sealing ribs 40 are arranged at the opening of the body and located at a lower side of the zipper assembly; the sealing ribs 40 include two toothless hooks 51 which are arranged side by side, and the two toothless hooks 51 are correspondingly disposed on both sides of the opening of the body 30 and are matched with each other. Each of the toothless hooks 51 is disposed on one side of the inner wall of the body 30, and the two toothless hooks 51 are arranged opposite to each other, when the opening of the body 30 is sealed, the two toothless hooks 51 are tightly clamped to form a reliable seal.

[0031] As shown in FIG. 1 to 6 and 8, the hooks of the toothless hooks 51 located on the same side of the inner wall of the body 30 are oriented in a same direction. After the toothless hooks 51 are sealed with each other, the sealing effect of the sealing bag can be further increased.

[0032] The above are the specific embodiments of the present invention. It should be pointed out that for those

of ordinary skill in the art, several improvements and modifications can also be made without departing from the principles of the present invention. These improvements and modifications are also regarded as the scope of protection of the present invention.

Claims

1. A zipper assembly, comprising a zipper and a slider configured for opening and closing the zipper, wherein,

the slider comprises an opening tongue, the slider is slidably connected to the zipper, and the zipper is pressed to close or separated by pulling the slider;

the zipper comprises two single chains, and each of the single chains is provided at an inner side with at least an upper complementary sealing part and a lower complementary sealing part which are arranged side by side; the upper complementary sealing parts comprise a first secondary hook and a first primary hook, which are matched with each other;

an inner side of the first secondary hook or the first primary hook is provided with first bumps, with a first groove being provided between every two adjacent first bumps, a head of the opening tongue is configured to be inserted between the first secondary hook and the first primary hook, and left and right sides of the head of the opening tongue respectively abut against the first bumps which are arranged opposite to each other; and when the slider is pulled to move forwards and backwards, and the left and right sides of the head of the opening tongue respectively collide with the first bumps and cross the first grooves, such that the slider makes a sound during movement thereof.

2. The zipper assembly according to Claim 1, wherein,

the slider further comprises two limit pieces and a connecting block, and the two limit pieces are arranged in parallel;

the opening tongue is located between the two limit pieces and connected to the connecting block;

the two single chains are configured to pass through an area enclosed by the two limit pieces and the connecting block;

outer sides of the zipper are provided with second bumps, with a second groove being provided between every two adjacent second bumps, and the two limit pieces of the opening tongue respectively abut against the second bumps which are arranged opposite to each other; and

when the slider is pulled to move forwards and backwards, and the two limit pieces of the opening tongue respectively collide with the second bumps and cross the second grooves, such that the slider makes a sound during movement thereof.

3. The zipper assembly according to Claim 1 or 2, wherein,

a guiding part is provided on an inner side of a top of each zipper; a tail of the opening tongue is located in a cavity together enclosed by the two guiding parts and the two upper complementary sealing parts adjacent to the guiding parts; the guiding parts are each provided with third bumps on respective inner sides opposite to each other, with a third groove being provided between every two adjacent third bumps, and both sides of the opening tongue respectively abut against the third bumps which are arranged opposite to each other; and

when the slider is pulled to move forwards and backwards, and both sides of the opening tongue respectively collide with the third bumps and cross the third grooves, such that the slider makes a sound or vibrates during movement thereof.

4. The zipper assembly according to Claim 3, wherein the head and the tail of the opening tongue are in an integral structure, with the opening tongue gradually decreasing in width from the tail to the head and gradually increasing in height from the tail to the head.

5. The zipper assembly according to Claim 1, wherein the lower complementary sealing parts comprise a second secondary hook and a second primary hook, which are matched with each other; when the slider slides towards a closed end of the zipper, the first secondary hook and the first primary hook are engaged with each other, and the second secondary hook and the second primary hook are engaged with each other; and when the slider slides toward an open end of the zipper, the first secondary hook and the first primary hook are disengaged from each other, and the second secondary hook and the second primary hook are disengaged from each other.

6. The zipper assembly according to Claim 5, wherein the first secondary hook and the second secondary hook are oriented in a same direction, and the first primary hook and the second primary hook are oriented in a same direction; the first secondary hook and the first primary hook are arranged opposite to each other, and the second secondary hook and the second primary hook are arranged opposite to each other.

7. The zipper assembly according to Claim 1, wherein a slider limit bar is provided on an outer side of a bottom of each of the single chains; a respective limit block is oppositely arranged an inner side of a bottom of each of the two limit pieces, and when the slider is slidably connected to the zipper, the slider limit bar is clamped on an inner side of the respective limit block and slidably connected to the respective limit block. 5
8. A sealing bag, comprising a body, wherein the sealing bag further comprises sealing ribs and the zipper assembly according to any one of claims 1 to 7, wherein the zipper assembly is arranged at an opening of the body, and the sealing ribs are arranged at the opening of the body and located at a lower side of the zipper assembly. 10 15
9. The zipper sealing bag according to claim 8, wherein the sealing ribs comprise a convex rib and a concave rib, which are respectively provided on both sides of the opening of the body; and when the opening of the body is sealed, the convex rib and the concave rib are tightly clamped to form a reliable seal. 20 25
10. The zipper sealing bag according to claim 8, wherein the sealing ribs comprise two toothless hooks which are arranged side by side, and the two toothless hooks are correspondingly disposed on both sides of the opening of the body and are matched with each other. 30

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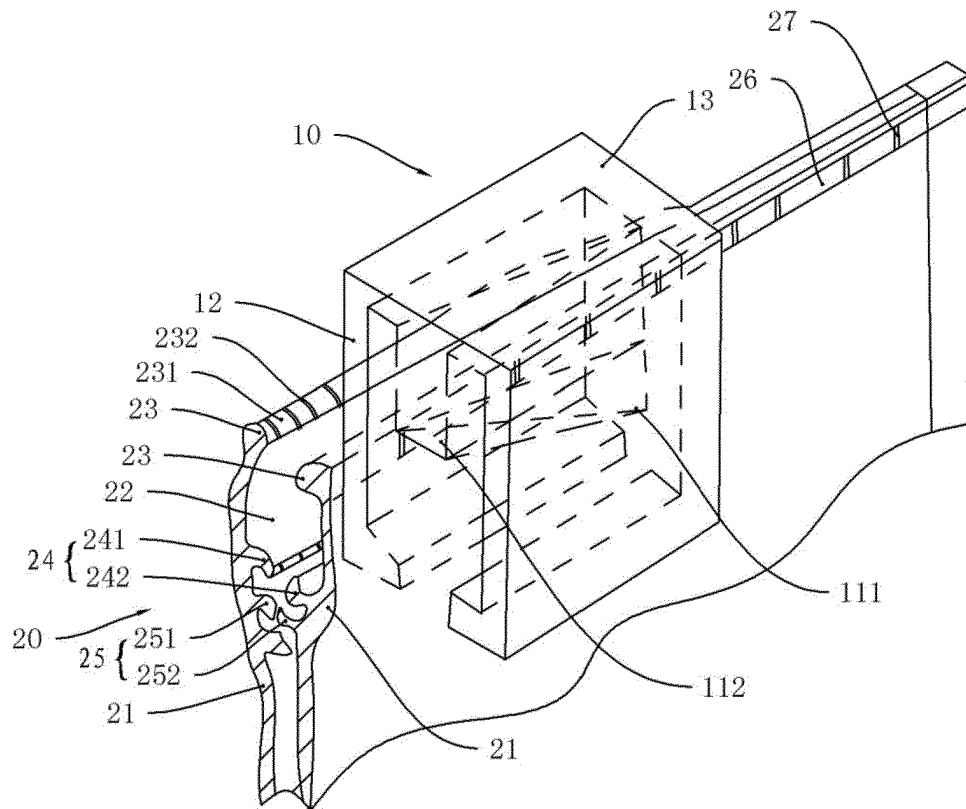


FIG. 1

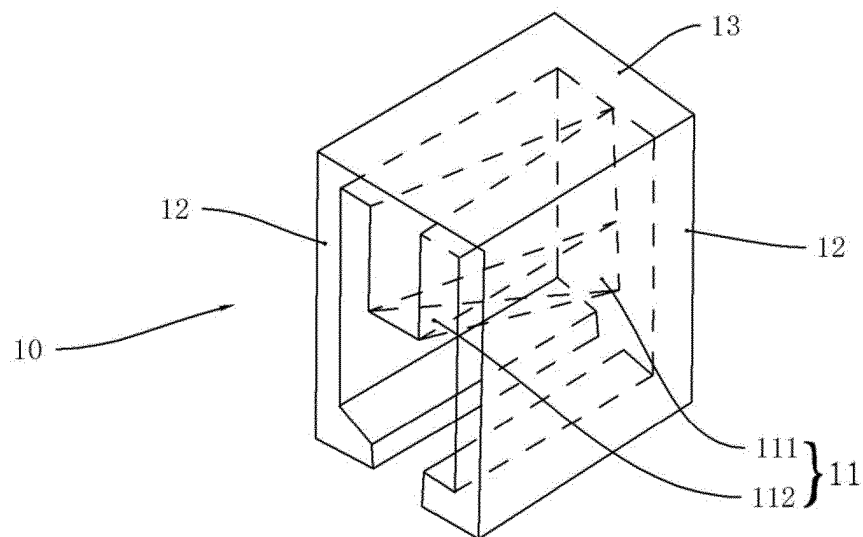


FIG. 2

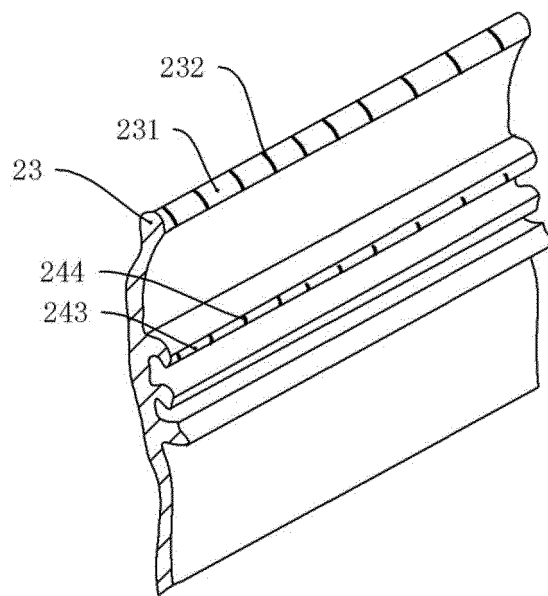


FIG. 3

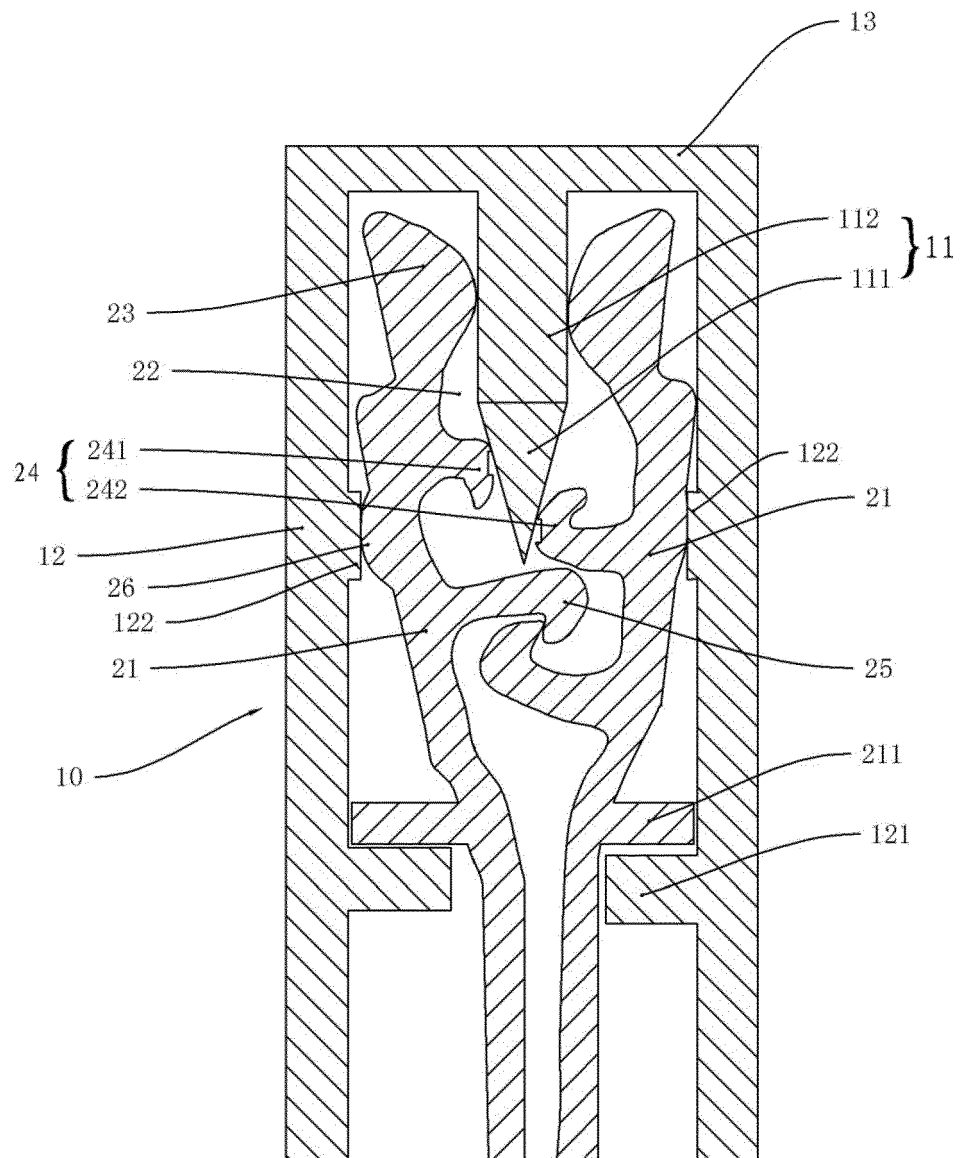


FIG. 4

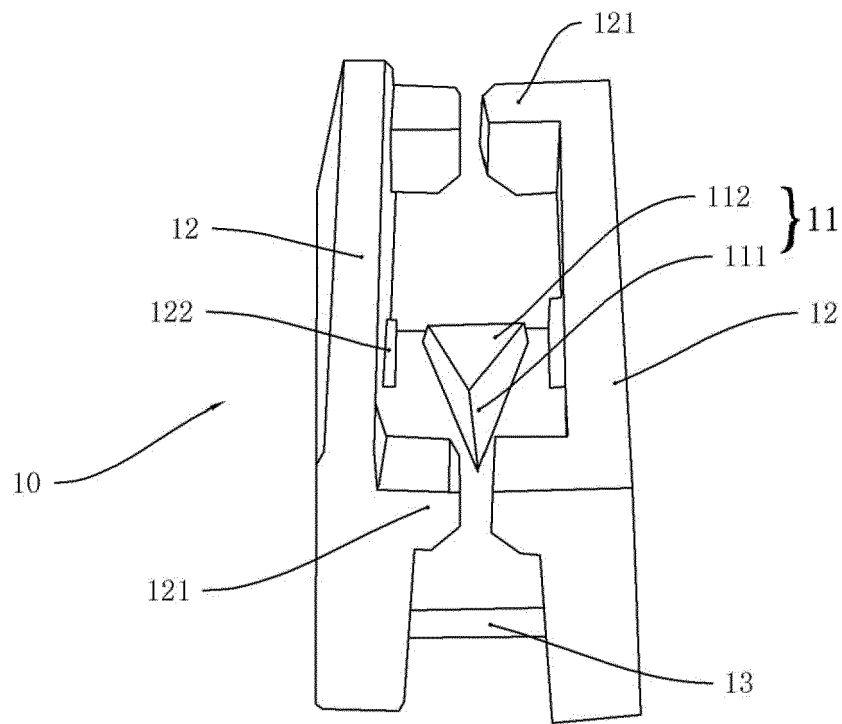


FIG. 5

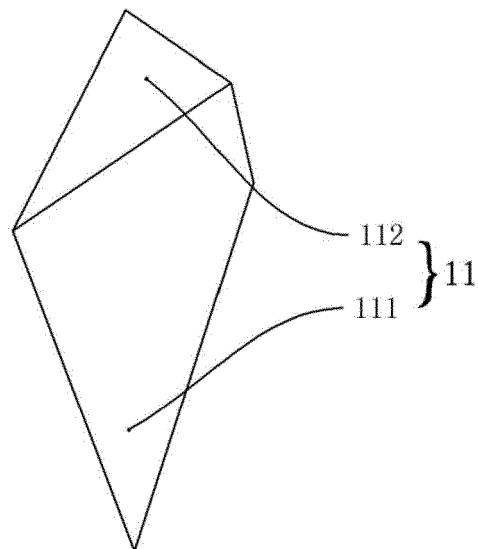


FIG. 6

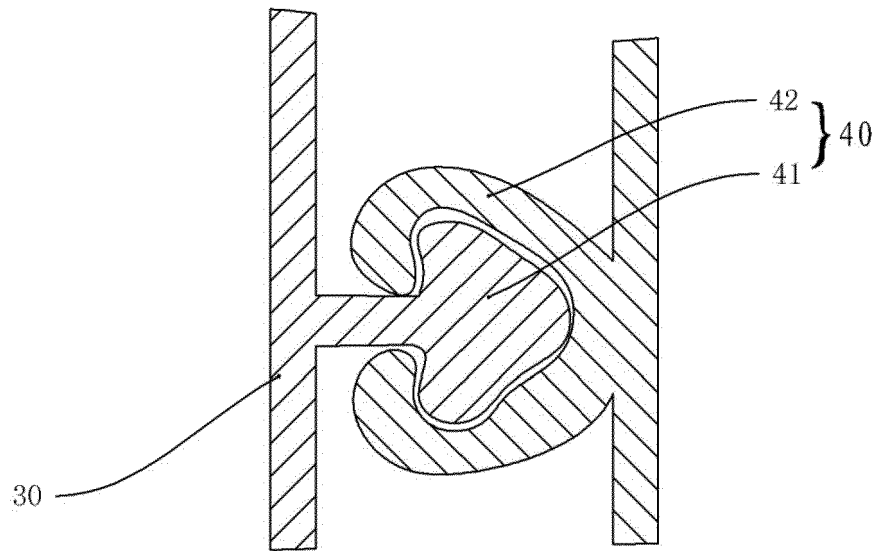


FIG. 7

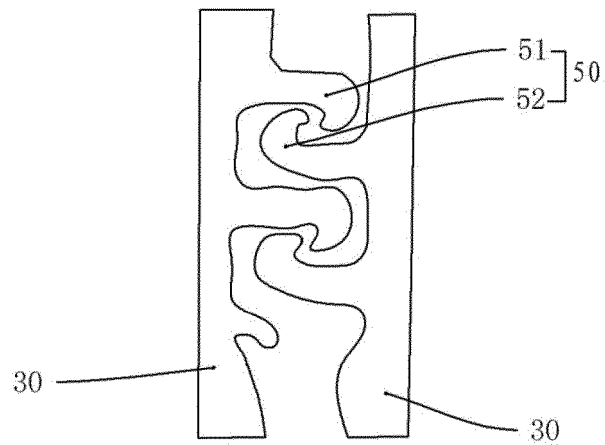


FIG. 8

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2020/083026

A. CLASSIFICATION OF SUBJECT MATTER B65D 33/25(2006.01)i; B65D 30/00(2006.01)i According to International Patent Classification (IPC) or to both national classification and IPC																								
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) B65D Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched																								
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) CNABS; CNKI; SIPOABS; VEN: 袋, 拉链, 拉锁, 滑块, 拉条, 舌, 凹, 凸, 声音, 声响, 听觉, 挂钩, 密封条, bag, zipper, slid+, slip+, concave, protub, protruding, tongue, lingua, voice, audib+, noise, ear, sound, hear+																								
C. DOCUMENTS CONSIDERED TO BE RELEVANT <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>CN 205837501 U (SHENZHEN JUYI FII CO., LTD.) 28 December 2016 (2016-12-28) description, paragraphs 0019-0019, and figures 1-4</td> <td>1-10</td> </tr> <tr> <td>X</td> <td>CN 204489517 U (DEQING SHANGYI PLASTIC PRODUCT CO., LTD.) 22 July 2015 (2015-07-22) description, paragraphs 0020-0029, and figures 1-4</td> <td>1-10</td> </tr> <tr> <td>X</td> <td>US 2004/0045134 A1 (GLAD PROD CO et al.) 11 March 2004 (2004-03-11) description, paragraphs 0025-0043, and figures 1-12</td> <td>1-10</td> </tr> <tr> <td>X</td> <td>US 2016/0059997 A1 (INTEPLAST GROUP LTD) 03 March 2016 (2016-03-03) description, paragraphs 0025-0028, and figures 1-6</td> <td>1-10</td> </tr> <tr> <td>A</td> <td>CN 1378512 A (PROCTER & GAMBLE) 06 November 2002 (2002-11-06) entire document</td> <td>1-10</td> </tr> <tr> <td>A</td> <td>CN 103373523 A (GONG, Lifeng) 30 October 2013 (2013-10-30) entire document</td> <td>1-10</td> </tr> <tr> <td>A</td> <td>WO 00/76340 A1 (GLAD PRODUCTS CO et al.) 21 December 2000 (2000-12-21) entire document</td> <td>1-10</td> </tr> </tbody> </table>	Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	CN 205837501 U (SHENZHEN JUYI FII CO., LTD.) 28 December 2016 (2016-12-28) description, paragraphs 0019-0019, and figures 1-4	1-10	X	CN 204489517 U (DEQING SHANGYI PLASTIC PRODUCT CO., LTD.) 22 July 2015 (2015-07-22) description, paragraphs 0020-0029, and figures 1-4	1-10	X	US 2004/0045134 A1 (GLAD PROD CO et al.) 11 March 2004 (2004-03-11) description, paragraphs 0025-0043, and figures 1-12	1-10	X	US 2016/0059997 A1 (INTEPLAST GROUP LTD) 03 March 2016 (2016-03-03) description, paragraphs 0025-0028, and figures 1-6	1-10	A	CN 1378512 A (PROCTER & GAMBLE) 06 November 2002 (2002-11-06) entire document	1-10	A	CN 103373523 A (GONG, Lifeng) 30 October 2013 (2013-10-30) entire document	1-10	A	WO 00/76340 A1 (GLAD PRODUCTS CO et al.) 21 December 2000 (2000-12-21) entire document	1-10
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☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.																								
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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2020/083026

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